

Applicant: Donald L. Schilling  
Application No.: 10/071,898

### IN THE CLAIMS

1. (Currently Amended) A spread spectrum remote unit comprising:  
means for receiving a combined spread spectrum signal, the spread spectrum signal including a reference signal and a plurality of message signals, the message signals having message data;  
means, including a plurality of detector means and synchronization means, for detecting the reference signal within the received combined spread spectrum signal;  
means for generating a remote reference signal at the remote unit;  
means to synchronize the remote reference signal with the detected reference signal; and  
means for recovering the message data of at least one of the message signals using information from the detected reference signal, said means demodulating each of a plurality of message data signals.

2. (Previously Presented) The remote unit of claim 1 further comprising:  
means for recovering a carrier signal from the spread spectrum signal using the reference signal; and

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wherein the message data recovering means uses the recovered carrier signal to recover the message data.

3. (Previously Presented) The remote unit of claim 1 wherein the spread spectrum signal is in a code division multiple access format.

4. (Currently Amended) A spread spectrum remote unit comprising:  
means for receiving a combined spread spectrum signal, the spread spectrum signal including a reference signal and a message signal, the message signal having message data;

means, including a plurality of detector means and synchronization means, for recovering a carrier signal of the combined spread spectrum signal using information from the detected reference signal;

means for generating a remote reference signal at the remote unit;

means to synchronize the remote reference signal with the detected reference signal; and

means for recovering the message data using the recovered carrier signal.

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5. (Previously Presented) The remote unit of claim 4 wherein the spread spectrum signal is in a code division multiple access format.

6. (Currently Amended) A spread spectrum remote unit comprising:  
means for detecting a base-generic-chip-code signal;  
means for producing a message signal having message data;  
means for producing a ~~[reference]~~ a remote-chip-code signal, the ~~[reference]~~ remote-chip-code signal for use in recovering the message data from a combined spread spectrum signal;  
means to produce a remote message signal having remote message data;  
means for combining the ~~[reference]~~ remote-chip-code signal and the remote message signal as a combined signal; and  
means for transmitting the combined signal as the combined spread spectrum signal.

7. (Currently Amended) A spread spectrum remote unit comprising:  
means for receiving a combined spread spectrum signal, the spread spectrum signal including a reference signal and a plurality of message signals, each message signal having message data;

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means for detecting the reference signal within the received combined spread spectrum signal;

means for generating a remote reference signal at the remote unit;

means to synchronize the remote reference signal with the detected reference signal; and

means, including a plurality of detector means and synchronization means, for recovering the message data of the plurality of message signals using the remote reference signal.

8. (Previously Presented) The remote unit of claim 7 further comprising:

means for recovering a carrier signal from the spread spectrum signal using the reference signal; and

wherein the message data recovering means uses the recovered carrier signal to recover the message data.

9. (Previously Presented) The remote unit of claim 7 wherein the spread spectrum signal is in code division multiple access format.

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10. (New) The remote unit of claim 1, wherein:

the means for generating a remote reference signal at the remote unit relays the detected reference signal, the remote reference signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote reference signal, and combines the spread-spectrum-processed remote message data with the remote-reference signal as a remote-CDMA signal; and

the remote unit transmits the remote-CDMA signal over a communications channel to a base station.

11. (New) The remote unit of claim 1, wherein:

the means for generating a remote reference signal at the remote unit uses the detected reference signal to set the timing for a different remote reference signal, the remote reference signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote reference signal, and combines the spread-spectrum-processed remote message data with the remote-reference signal as a remote-CDMA signal; and

the remote unit transmits the remote-CDMA signal over a communications channel to a base station.

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12. (New) The remote unit of claim 4, wherein:

the means for generating a remote reference signal at the remote unit relays the detected reference signal, the remote reference signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote reference signal, and combines the spread-spectrum-processed remote message data with the remote-reference signal as a remote-CDMA signal; and

the remote unit transmits the remote-CDMA signal over a communications channel to a base station.

13. (New) The remote unit of claim 4, wherein:

the means for generating a remote reference signal at the remote unit uses the detected reference signal to set the timing for a different remote reference signal, the remote reference signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote reference signal, and combines the spread-spectrum-processed remote message data with the remote-reference signal as a remote-CDMA signal; and

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the remote unit transmits the remote-CDMA signal over a communications channel to a base station.

14. (New) The remote unit of claim 6, wherein:

the means for generating a remote-chip-code signal at the remote unit relays the detected chip-code signal, the remote-chip-code signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote-chip-code signal, and combines the spread-spectrum-processed remote message data with the remote-chip-code signal as a remote-CDMA signal; and

the remote unit transmits the remote-CDMA signal over a communications channel to a base station.

15. (New) The remote unit of claim 6, wherein:

the means for generating a remote-chip-code signal at the remote unit uses the detected chip-code signal to set the timing for a different remote-chip-code signal, the remote-chip-code signal transmitted from the remote unit;

the remote unit spread-spectrum processes the remote message data with the remote-chip-code signal, and combines the spread-spectrum-processed

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remote message data with the remote-chip-code signal as a remote-CDMA signal;  
and

the remote unit transmits the remote-CDMA signal over a  
communications channel to a base station.

16. (New) The remote unit of claim 7, wherein:

the means for generating a remote reference signal at the remote unit  
relays the detected reference signal, the remote reference signal transmitted from  
the remote unit;

the remote unit spread-spectrum processes the remote message data  
with the remote reference signal, and combines the spread-spectrum-processed  
remote message data with the remote-reference signal as a remote-CDMA signal;  
and

the remote unit transmits the remote-CDMA signal over a  
communications channel to a base station.

17. (New) The remote unit of claim 7, wherein:

the means for generating a remote reference signal at the remote unit  
uses the detected reference signal to set the timing for a different remote reference  
signal, the remote reference signal transmitted from the remote unit;



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the remote unit spread-spectrum processes the remote message data with the remote reference signal, and combines the spread-spectrum-processed remote message data with the remote-reference signal as a remote-CDMA signal; and

the remote unit transmits the remote-CDMA signal over a communications channel to a base station.